

KASSU JET – JUNE 2022

233/3

CHEMISTRY PRACTICAL

CONFIDENTIAL INSTRUCTIONS

Instructions to Schools:

The information contained in this paper is to enable the head of the school and the teacher in charge of Chemistry to make adequate preparation for the Chemistry Practical Examination.

NO ONE ELSE should have access to this paper or acquire knowledge of its content. Great care MUST be taken to ensure that the information herein does NOT reach the candidates either directly or indirectly. The teacher in charge of Chemistry should NOT perform any of the experiments in the SAME room as the candidates nor make the results of the experiment available to the candidates or give any information related to the experiments to the candidates. Doing so will constitute an examination irregularity.

Requirements for candidates in addition to fittings, and apparatus found in the chemistry laboratory, each candidate will require:

1. 100 cm³ of solution **A**₁ – KIO₃, potassium iodate solution
2. 100 cm³ of solution **A**₂ – Acidified NaHSO₃, Acidified sodium hydrogen sulphite
3. 150 cm³ of solution **B** acidified potassium manganite (VII) KmnO₄
4. 150 cm³ of solution **C**, 5g/l of dibasic acid, H₂A.2H₂O
5. About 1g of solid **R** in a stopper container – maleic acid (pure)
6. About 1g of solid **D** (sodium hydrogen carbonate)
7. One 50 cm³ burette
8. About 30 cm³ of **A**₃, starch indicator solution.
9. About 10 cm³ solution **Q** (Al Cl₃ (aq)) in a stoppered boiling tube
10. One 25 cm³ pipette
11. Two 10 cm³ measuring cylinder
12. One 100 cm³ beaker
13. Two 250 cm³ conical flasks
14. Seven, clear dry test-tubes placed in a rack

15. One stop watch / stop clock
16. One boiling tube
17. One spatula metallic

ACCESS TO:

1. 2M sodium hydroxide solution supplied with a dropper.
2. 2M Ammonia solution supplied with a dropper
3. 2M dilute hydrochloric acid supplied with a dropper.
4. 2M Barium nitrate solution supplied with a dropper.
5. 2M Lead (II) nitrate solution supplied with a dropper.
6. 300 cm² of distilled water.
7. Source of heat (Bunsen burner).
8. Acidified potassium manganate (VII) – KMnO_4 supplied with a dropper.
9. Acidified potassium dichromate(VI) – $\text{K}_2\text{Cr}_2\text{O}_7$.

PREPARATIONS

1. Solution **A**₁ is prepared by dissolving 2g of solid **A**₁ (potassium iodate [$\text{KIO}_3(\text{s})$]) in distilled water and making it up to one litre.
2. Solution **A**₂ is prepared by dissolving 0.40 g of solid **A**₂ acidified sodium hydrogen sulphite (NaHSO_3) in about 200 cm³ of distilled water, and adding 20 cm³ of 1M sulphuric acid, shaking well, and making up to one litre with distilled water.
3. Solution **A**₃ – starch indicator is prepared placing 1.0g of solid **A**₃ – starch indicator in 100 cm³ beaker and adding 2 cm³ of distilled water to make a paste and pouring the paste into 100 cm³ of boiling distilled water and boiling the mixture for about one minute and allowing it to cool solution **A**₃ is to be prepared in the morning of the examination.
4. Solution **B** – Acidified potassium manganate(VII) prepared by dissolving 9g of solid potassium manganate(VII) in about 600 cm³ of 2M sulphuric(VI) acid and adding distilled water to make a litre of the solution.
5. Solid **R** is pure maleic acid.
6. Solution **C** – 5g/l of oxalic acid is prepared by dissolving 5 g of oxalic acid in 250 cm³ of water and making it to one litre of solution.